AMENDMENT

A Version With Markings To Show Changes Made follows Applicant's Remarks.

In the Claims:

Please amend Claims 12, 26, and 27, and add new Claims 67-79 as follows.

12.(Amended) A method of treating irritable bowel syndrome, fibromyalgia, chronic fatigue syndrome, depression, attention deficit/hyperactivity disorder, or an autoimmune disease selected from the group consisting of multiple sclerosis and systemic lupus erythematosus, comprising:

detecting the presence of small intestinal bacterial overgrowth in a human subject having at least one symptom associated with a suspected diagnosis of irritable bowel syndrome, fibromyalgia, chronic fatigue syndrome, depression, attention deficit/hyperactivity disorder, or an autoimmune disease selected from the group consisting of multiple sclerosis and systemic lupus erythematosus; and at least partially eradicating the bacterial overgrowth, whereby the at least one symptom is improved.

26.(Amended) The method of Claim 24, wherein the bile acid is ursodeoxycholic acid or chenodeoxycholic acid, and the bile salt is a sodium or potassium salt of ursodeoxycholate or chenodeoxycholate.

27.(Twice Amended) The method of Claim 12, further comprising administering to said human subject an antagonist of a pro-inflammatory cytokine or an antibody that specifically binds an inflammatory cytokine, simultaneously with or after at least partially eradicating small intestinal bacterial overgrowth in the human subject.

C1

C2

C3

D1

Please add new Claims 67-79

--67.(New) A method of treating irritable bowel syndrome, fibromyalgia, chronic fatigue syndrome, depression, attention deficit/hyperactivity disorder, an autoimmune disease, or Crohn's disease, comprising:

detecting the presence of small intestinal bacterial overgrowth in a human subject having at least one symptom associated with a suspected diagnosis of irritable bowel syndrome, fibromyalgia, chronic fatigue syndrome, depression, attention deficit/hyperactivity disorder, an autoimmune disease, or Crohn's disease; and

at least partially eradicating the bacterial overgrowth by administering to the human subject a chemical prokinetic agent selected from the group consisting of a peptide, a macrolide compound, a bile acid, a bile salt, a cholinergic compound, a dopamine antagonist, a nitric oxide altering agent, a 5-HT receptor antagonist, a neuroleptic agent, a kappa agonist, or an antihistamine except ranitidine, famotidine, or nizatidine, whereby phase III interdigestive intestinal motility in the human subject is increased and the bacterial overgrowth is thereby at least partially eradicated, and whereby the at least one symptom is improved.

68.(New) The method of Claim 67, wherein the prokinetic agent is cisapride, metoclopramide, domperidone, bethanechol, erythromycin, azithromycin, nomega-nitro-L-arginine methylester, or N-monomethyl-L-arginine, ondansetron, alosetron, promethazine, meclizine, prochlorperazine, chlorpromazine, haloperidol, or fedotozine.

69.(New) The method of Claim 67, wherein the bile acid is ursodeoxycholic acid or chenodeoxycholic acid, and the bile salt is a sodium or potassium salt of ursodeoxycholate or chenodeoxycholate.

70.(New) A method of treating irritable bowel syndrome, fibromyalgia, chronic fatigue syndrome, depression, attention deficit/hyperactivity disorder, an autoimmune disease, or Crohn's disease, comprising:

detecting the presence of small intestinal bacterial overgrowth (SIBO) in a human subject having hyperalgesia associated with a suspected diagnosis of irritable bowel syndrome, fibromyalgia, chronic fatigue syndrome, depression, attention deficit/hyperactivity disorder, an autoimmune disease, or Crohn's disease; and

alleviating or improving the hyperalgesia by administering an agent that modifies afferent neural feedback or sensory perception, whereby the hyperalgesia is improved.

D1

71.(New) The method of Claim 70, wherein the agent that modifies afferent neural feedback or sensory perception is a 5-HT receptor antagonist, an opiate agonist, peppermint oil, cisapride, a dopamine antagonist, an antidepressant agent, an anxiolytic agent, or a combination of any of these.

72.(New) The method of Claim 71, wherein the dopamine antagonist is domperidone.

73.(New) The method of Claim 71, wherein the opiate agonist is fedotozine.

74.(New) The method of Claim 71, wherein the 5-HT receptor antagonist is ondansetron or alosetron.

75.(New) The method of Claim 71, wherein the antidepressant agent is a tricyclic antidepressant, tetracyclic antidepressant, a serotonin re-uptake inhibitor, a monoamine oxidase inhibitor, trazodone, venlafaxine, mirtazapine, nefazodone, or bupropion.

76.(New) The method of Claim 75, wherein the tricyclic antidepressant is amitriptyline and the tetracyclic antidepressant is maprotiline.

77.(New) The method of Claim 75, wherein the monoamine oxidase inhibitor is phenelzine.

78.(New) The method of Claim 75, wherein the serotonin re-uptake inhibitor is fluoxetine or sertraline.

79.(New) The method of Claim 71, wherein the anxiolytic agent is a benzodiazepine compound.--.